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IL-12A Antibody

Catalog # ASC11706

Product Information

Application	WB, E
Primary Accession	P29459
Other Accession	NP_000873, 24430219
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	24874
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IL-12A antibody can be used for detection of IL-12A by Western blot at 0.5 - 1 g/ml.

Additional Information

Gene ID	3592
Other Names	Interleukin-12 subunit alpha, IL-12A, Cytotoxic lymphocyte maturation factor 35 kDa subunit, CLMF p35, IL-12 subunit p35, NK cell stimulatory factor chain 1, NKSF1, IL12A, NKSF1
Target/Specificity	IL 12A; IL-12A antibody is human specific. IL-12A antibody will not cross-react with IL-12B.
Reconstitution & Storage	IL-12A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	IL-12A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IL12A
Synonyms	NKSF1
Function	Heterodimerizes with IL12B to form the IL-12 cytokine or with EBI3/IL27B to form the IL-35 cytokine (PubMed:8605935, PubMed:8943050). IL-12 is primarily produced by professional antigen-presenting cells (APCs) such as B-cells and dendritic cells (DCs) as well as macrophages and granulocytes and regulates T-cell and natural killer-cell responses, induces the production of interferon-gamma (IFN-gamma), favors the differentiation of T-helper 1 (Th1) cells and is an important link between innate resistance and adaptive immunity (PubMed:1673147, PubMed:1674604, PubMed:8605935).

Mechanistically, exerts its biological effects through a receptor composed of IL12R1 and IL12R2 subunits (PubMed:8943050). Binding to the receptor results in the rapid tyrosine phosphorylation of a number of cellular substrates including the JAK family kinases TYK2 and JAK2 (PubMed:7528775). In turn, recruited STAT4 gets phosphorylated and translocates to the nucleus where it regulates cytokine/growth factor responsive genes (PubMed:7638186). As part of IL-35, plays essential roles in maintaining the immune homeostasis of the liver microenvironment and also functions as an immune-suppressive cytokine (By similarity). Mediates biological events through unconventional receptors composed of IL12RB2 and gp130/IL6ST heterodimers or homodimers (PubMed:22306691). Signaling requires the transcription factors STAT1 and STAT4, which form a unique heterodimer that binds to distinct DNA sites (PubMed:22306691).

Cellular Location Secreted

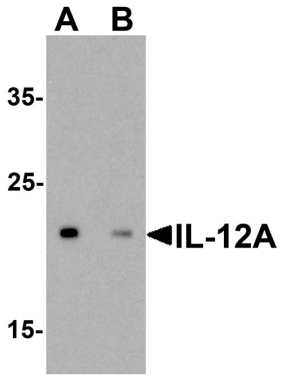
Background

IL-12A is subunit of the cytokine IL-12 which acts on T- and natural killer cells, and has a broad array of biological activities. IL-12 is a disulfide-linked heterodimer composed of the 35-kD subunit and a 40-kD subunit that is a member of the cytokine receptor family (1). IL-12 is required for the T-cell-independent induction of interferon (IFN)-gamma, and is important for the differentiation of both Th1 and Th2 cells (1,2). The responses of lymphocytes to IL-12 are mediated by the activator of transcription protein STAT4 (2). Nitric oxide synthase 2A (NOS2A/NOS2) is found to be required for the signaling process of this cytokine in innate immunity (3).

References

Gee K, Guzzo C, Che Mat NF, et al. The IL-12 family of cytokines in infection, inflammation and autoimmune disorders. Inflamm. Allergy Drug Targets 2009; 8:40-52.
Sinigaglia F, D'Ambrosio D, Panina-Bordignon P, et al. Regulation of the IL-12/IL-12R axis: a critical step in T-helper cell differentiation and effector function. Immunol. Rev. 1999; 170:65-72.
Bogdan C, Rollinghoff M, and Diefenbach A. The role of nitric oxide in innate immunity. Immunol. Rev. 2000; 173:17-26.

Images



Western blot analysis of IL-12A in HeLa cell lysate with IL-12A antibody at 0.5 µg/ml in (A) the absence and (B) the presence of blocking peptide.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.